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Teledyne Technologies Incorporated

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA
WESTERN DIVISION

TELEDYNE TECHNOLOGIES
INCORPORATED, a Delaware
corporation,

Plaintiff,

vs.

HONEYWELL INTERNATIONAL,
INC., a Delaware corporation,

Defendant.

AND COUNTERCLAIM

CASE NO. 06-06803-MMM (SHx)

The Honorable Margaret M. Morrow

DECLARATION OF DR. R. W.
KREUTEL IN SUPPORT OF
TELEDYNE'S SUPPLEMENTAL
MARKMAN BRIEF

Trial Date: Sept. 23, 2008
Discovery Cut-off Date: June 6, 2008
Pre-trial Conference Date: Aug. 25, 2008

1 DECLARATION OF DR. R. W. KREUTEL

2
3 I, Dr. R. W. Kreutel, declare as follows:

4 1. I have over 40 years of experience in the satellite
5 communications industry, including an 18 year tenure with Communications
6 Satellite Corp. (COMSAT). I am a founding member of COMSAT Laboratories. I
7 provided technical support to all of the early international communications satellites
8 (INTELSAT), including ITS-I through ITS-V. My support covered both spacecraft
9 and earth-terminal technologies. I provided similar support to MARISAT (the
10 precursor of the INMARSAT system) and to COMSTAR (a U.S. regional, domestic
11 system). Later I became involved in Low/Medium Earth Orbit systems, initially for
12 personal communication, and subsequently for wide-band Internet service to homes
13 and businesses. I am a Fellow of the Institute of Electrical and Electronic
14 Engineers. My Fellow citation refers to my contributions to satellite
15 communications technology. Attached as Exhibit A is my up-to-date resume.

16 2. In the subsequent paragraphs of this Declaration, I provide
17 definitions of "Direct Broadcast Satellite" and "Aeronautical Satellite" based on the
18 state of the satellite communications business in the 1998-99 timeframe.

19 3. In the 1979-80 timeframe, COMSAT established a subsidiary
20 company called Satellite Television Corp., and Mr. Stanley S. Hubbard formed U.S.
21 Satellite Broadcasting. These were the initial entries in the satellite television
22 broadcasting industry. The intent was to provide wide-band television direct to the
23 home. But it was not until a dozen or so years later that this proposed service was
24 reduced to practice. The proposed service was referred to as "Direct Broadcast
25 Satellite" ("DBS"). Major participants in DBS were DirectTV and Echostar. As
26 implemented in the 1998-99 timeframe, DBS systems included a return link via a
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1 telephone circuit and a SATCOM earth station in order to provide pay-per-view or
2 TV-on-demand services.

3 4. Inherent in the broadband TV broadcasting capability of DBS is
4 the means to provide Internet services with the aforementioned return link serving as
5 the information request link.

6 5. A Direct Broadcast Satellite provides point-to-multi-point
7 service. Broadband video and/or data (e.g., many TV channels or e-mails) are
8 transmitted simultaneously to many users (subscribers). The users are distributed
9 over a broad area of coverage, e.g., a country or a time zone within a country. By
10 means of an appropriate selection device, the receiver chooses or filters that part of
11 the transmission designated for the particular subscriber. For example, as stated
12 earlier, DBS can provide Internet services in which case subscribers can, with
13 appropriate user IDs and passwords, access private email accounts, bank accounts,
14 or the like.

15 6. In the 1970s, a joint venture was established between COMSAT
16 and the European Space Agency to develop a dedicated Aeronautical Satellite
17 system. Such a dedicated system was never developed due to technical and
18 operational difficulties and lack of financial support..

19 7. The International Maritime Satellite Organization (INMARSAT)
20 was formed in 1979 to provide mobile satellite service to seagoing platforms. The
21 INMARSAT charter was subsequently broadened to include both Aeronautical
22 Satellite and Land Mobile Services. The name of the INMARSAT organization was
23 changed to International Mobile Satellite Organization to reflect the broadened
24 scope of business, but the INMARSAT acronym was maintained. Aeronautical
25 Satellite services were introduced in the INMARSAT system in 1992.

1 8. Aeronautical Satellite services consist of two-way air-to-ground
2 and air-to-air telecommunications services for the crew and the passengers of
3 airplanes.

4 9. In the 1998-99 timeframe, reference to an "Aeronautical
5 Satellite" explicitly refers to an INMARSAT satellite, because INMARSAT was the
6 only satellite provider authorized by regulatory authority to provide Aeronautical
7 Satellite services.

8 10. In the 1998-99 timeframe, within the accepted nomenclature of
9 the satellite communication business, an "Aeronautical Satellite" would not be
10 considered a "Direct Broadcast Satellite." Nor would a "Direct Broadcast Satellite"
11 be considered a subspecies of an "Aeronautical Satellite." In this time period,
12 "Aeronautical Satellites" and "Direct Broadcast Satellites" were considered distinct
13 and separate types of satellite systems.

14 11. The following references support the facts in this Declaration:


15 11.1 Bruno Pattan, Satellite Systems: Principles and Technologies, pp.
16 218-225 (1993). A true and correct copy of relevant excerpts from this publication
17 is attached as Exhibit B.

18 11.2 Minutes of Meeting between NASA/NSF and INMARSAT (June
19 23, 1992). A true and correct copy of these minutes is attached as Exhibit C.

20 11.3 COMSAT Technical Review, vol. 11, no. 1, p. 195 (Fall 1981)
21 (special issue covering COMSAT's Direct Broadcast Satellite System). A true and
22 correct copy of relevant excerpts from this publication is attached as Exhibit D.

1 I declare under penalty of perjury under the laws of the United States of
2 America that the foregoing is true and correct.

3 Executed this 11th day of February, 2008, at Los Angeles, California.

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6 _____
7 Dr. R. W. Kreutel